

The University of Trinidad and Tobago

Centre for Education Programmes

In partial fulfilment of the course

TECH 1001

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# LESSON PLAN

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## LESSON PLAN

SUBJECT: Science

LESSON TITLE: Mitosis and Meiosis

RELATED LESSON: Gametes, Haploid, Diploid, Chromosomes

CLASS LEVEL: FORM 4-5

### OBJECTIVES

- Students will be able to state the differences between mitosis and meiosis
- Students will be able to describe the process of mitosis and meiosis
- Students will be able to construct diagrams of mitosis and meiosis at 90% to 100% accuracy

### INSTRUCTIONAL OBJECTIVES

Students learn how cell reproduces and are able to illustrate both processes. Using web quest method, the teacher provides a structured frame work for web searching that provides resources for the students. A template for a video is provided as well as a drill and practice along with a PowerPoint as areas of assessment for the students.

### ACTION

Before class preparation

Find the developed web quest for the students to view while teaching the topic on mitosis and meiosis. Web quest should provide the teacher with links to resources of information, pictures and videos.

A projector will be connected to the teacher's laptop that would be used as a method of illustrating the web quest that contains definitions and explanations about the topic, as well as the links to videos and further resources of information for students to use.

However, in case of any problems, information, pictures and videos would be stored on a CR-ROM or DVD-ROM to be distributed to students to use.

**Comment [LR1]:** Are you finding this webquest or creating this webquest. The whole point of the assignment is to allow you to create ICT learning resources, so finding them will not yield any marks for your group.

For the assessment, students can be placed in the groups of four to create a presentation showing the processes of mitosis and meiosis. The presentation can be in the form of a power point. However for the drill and practice assessment, students are to work individually.

#### INTERNET RESOURCES

- [Webquest.org](http://www.webquest.org)
- [http://www.quia.com/quiz/1170843.html?AP\\_rand=1881865477](http://www.quia.com/quiz/1170843.html?AP_rand=1881865477)

**Comment [LR2]:** While you have stated the webquest you have not specifically stated the webquest used for teaching this science lesson. Okay, I have found your webquest. Next time place the link within the lesson plan resources. While looking over your webquest I found that your webquest is a bit directionless and your web links were to long and confusing. For instance: In your Introduction section of the webquest you have a weblink that is much too long and when it is clicked all it takes you too is a google image search. You should have been clearer in this area.

Time/Minutes	Instructional Activities	Resources
35 min	<p>Introduce the topic and asked students what they think the terms mean.</p> <ul style="list-style-type: none"> <li>-give the students a definition of mitosis ( use web quest)</li> <li>- use pictures and videos to illustrate the process of mitosis</li> <li>-while video is playing asked students where do they think the process occurs</li> <li>-give them a hint that it produces the same number of chromosomes at the end of the process.</li> <li>-give examples of where the process occurs</li> <li>-explain the importance for maintaining species chromosomes number</li> <li>-explain the role of mitosis in asexual reproduction and give examples as well as assign an activity for them to do</li> </ul>	<p>Laptop with projector</p> <p>Web quest with videos and pictures</p>
25 mins	<p>State that in sexual reproduction it is important for the chromosomes number in gametes to be halved, when this happens the process is known as meiosis.</p> <ul style="list-style-type: none"> <li>-explain what is meiosis</li> </ul>	<p>Laptop with projector</p> <p>Web quest with videos and pictures</p>

	-use pictures and videos to illustrate the process of meiosis.	
10 mins	<p>For evaluation:</p> <p>-provided students with a drill and practice exercise at the end of the lesson</p> <p>-students will be place in groups of four to do a power point presentation of no more than 10 mins long The presentation will be presented in the following class and evaluated according to the rubric.</p>	<p>Computer with internet access</p> <p>Projector</p> <p>Web quest</p>

#### ON GOING ASSESSMENT

-monitor students to ensure that they are following instructions

#### ACCOMMODATION AND EXTENTIONS

Since students will be working in groups they should be able to help each other to get the work done. If any students do not understand a part of the assignment, other group members can help.

For individual assignments, students may use resources the resources to answer the questions

#### EVALUATION

Drill and Practice will be provided on the web quest for student to enhance their content knowledge of the topic.

Students must prepare a power point presentation in groups of four. The presentation will be no more than 10 minutes long. The power point assessment will be marked according to the rubric.

## BACKUP PLAN

-In case of network difficulties, pictures, videos and information would be kept on a flash drive or DVD-ROM or on the desktop of the teacher's laptop.

-Text books can also be made available.

## REFERENCES:

<http://faculty.clintoncc.suny.edu/faculty/michael.gregory/files/bio%20101/bio%20101%20laboratory/mitosis/mitosis.htm>

[http://www.diffen.com/difference/Meiosis\\_vs\\_Mitosis](http://www.diffen.com/difference/Meiosis_vs_Mitosis)

[https://www.google.tt/?gws\\_rd=cr&ei=NPA9U7ffErTRsASi54CQDQ#](https://www.google.tt/?gws_rd=cr&ei=NPA9U7ffErTRsASi54CQDQ#)

[www.youtube.com/watch?v=8YzDSeVLBVA](http://www.youtube.com/watch?v=8YzDSeVLBVA)

<https://www.youtube.com/watch?v=C6hn3sA0ip0>

<https://www.youtube.com/watch?v=1-RKH5eVJVM>

[http://www.biology.arizona.edu/cell\\_bio/tutorials/cell\\_cycle/cells3.html](http://www.biology.arizona.edu/cell_bio/tutorials/cell_cycle/cells3.html)

[http://teachertech.rice.edu/Participants/dawsonm/cells/Stages\\_of\\_Mitosis.htm](http://teachertech.rice.edu/Participants/dawsonm/cells/Stages_of_Mitosis.htm)

<http://faculty.stcc.edu/BIOL102/Lectures/lesson9/stepbystep.htm>

<http://www.learning-theories.com/discovery-learning-bruner.html>

# USER GUIDE

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**Name of project:**

Cell Division (Mitosis & Meiosis)

**Description of project:**

This project helps the class of form four to five to understand and explain the process of mitosis and meiosis by using informative and creative methods are used.

**Comment [LR3]:** Very vague and simplistic. You have not really described the key technologies utilized within the project nor stated a rationale for the technology use. All you have done is given a step by step list of how to use the lesson.

**Contributors to the project:**

Marinda Samuel-64225  
Ava Lopez-63805  
Akash Lackhan-64504  
Naline Deena-64104

**Structure of the project:**

Using the Web quest method the teacher provides a structured framework for web searching that provides resources for the students. The video is used as a form of multimedia/hypermedia for the children with learning disabilities to get a visual effect along with a drill and practice used for children that grasp the concept of the lesson quickly.

**Comment [LR4]:** You keep referring to a webquest, but you haven't shown any evidence as to what this webquest is and have not placed a link relating to this webquest.

**Major features of the project and how to access them**

1. Begin by opening your preferred web browser.





2. In the search bar type in the following link:

<http://zunal.com/webquest.php?w=231678>

3. You will be directly taken to the site.

**Comment [LR5]:** Very good, why didn't you place this link in the lesson plan???

4. Click the varying buttons on the site to navigate through the entire lesson.
5. Click on the following links on the different sections of the web quest. These links will take you to other additional resources.
6. Click on the videos in the introduction to further assist your understanding of the content presented.
7. Then click on the evaluation icon to be assessed by the drill and practice exercise and follow the rubric for your power point presentation for next class.
8. To get back to the homepage, click the "Home" icon at the top of the website
9. If you need further assistance you can contact your teacher via her phone or email.

